



FIG. 1

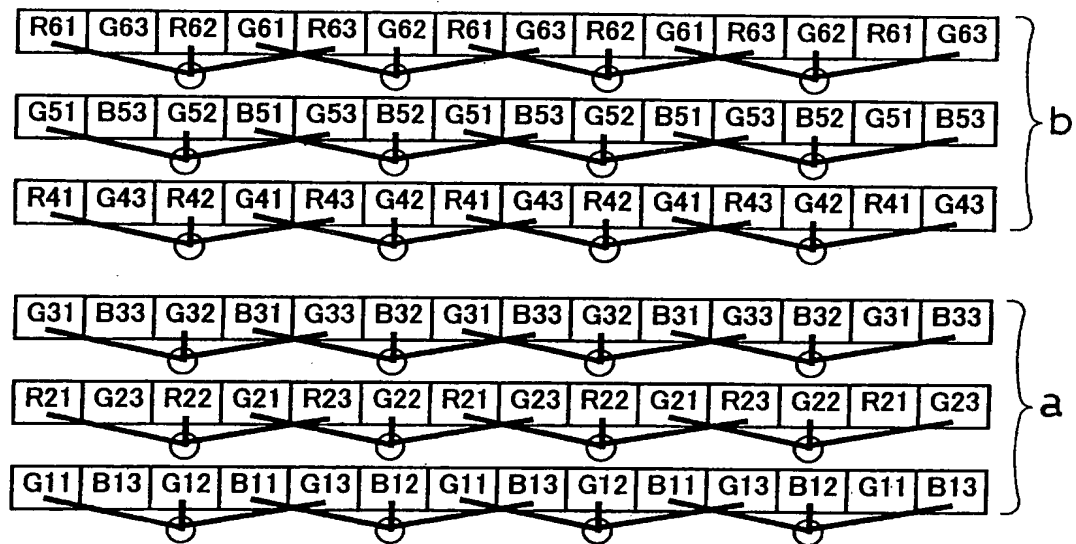
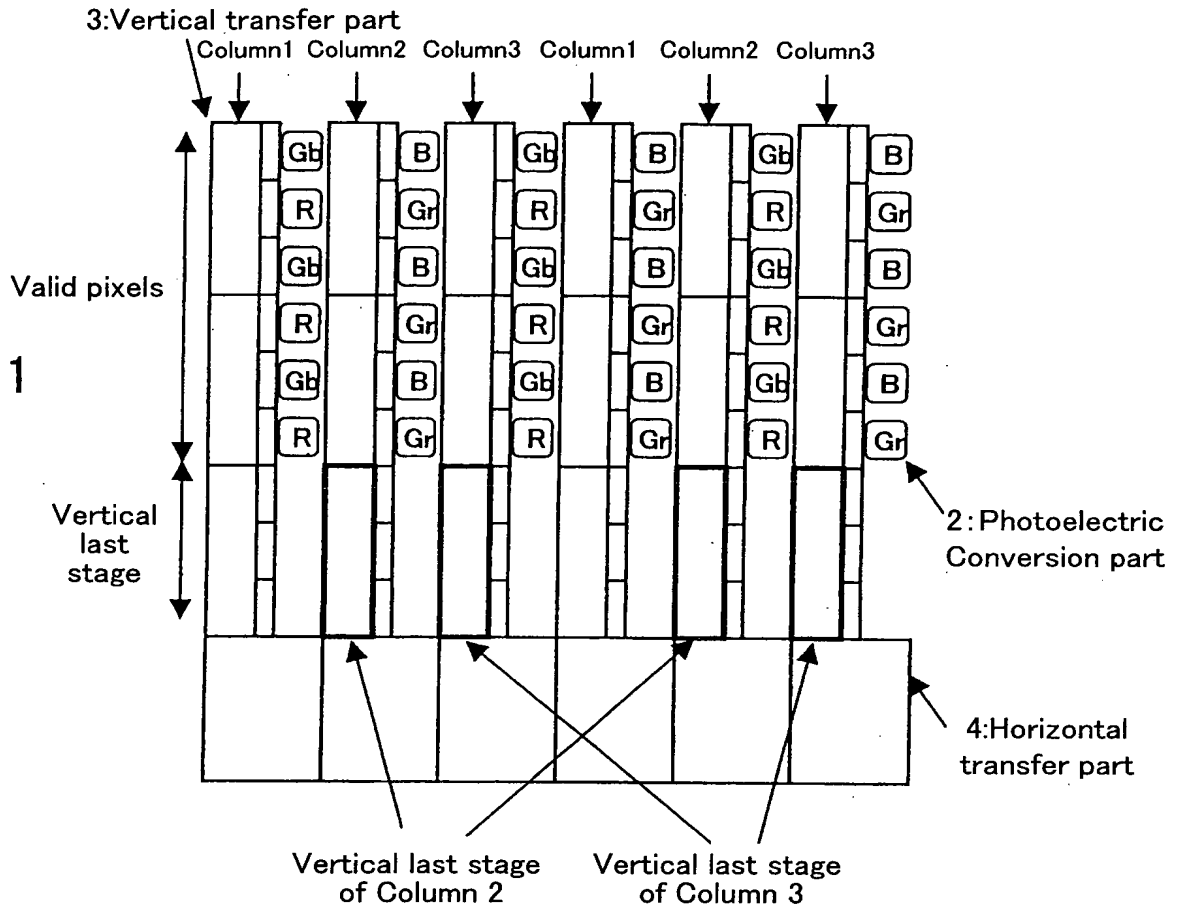


FIG. 2

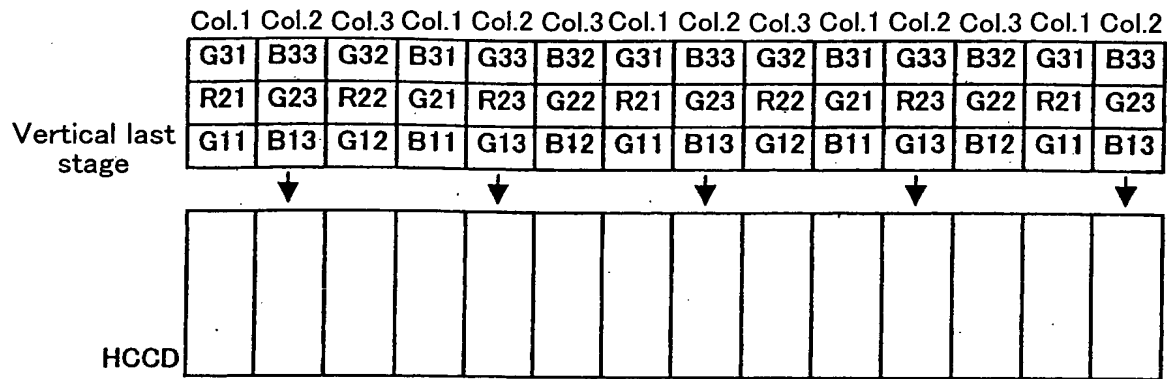


FIG. 3

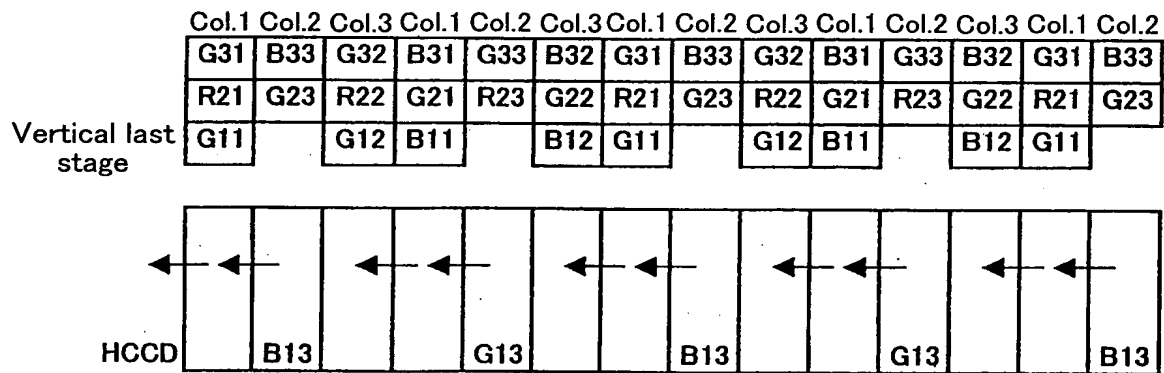


FIG. 4

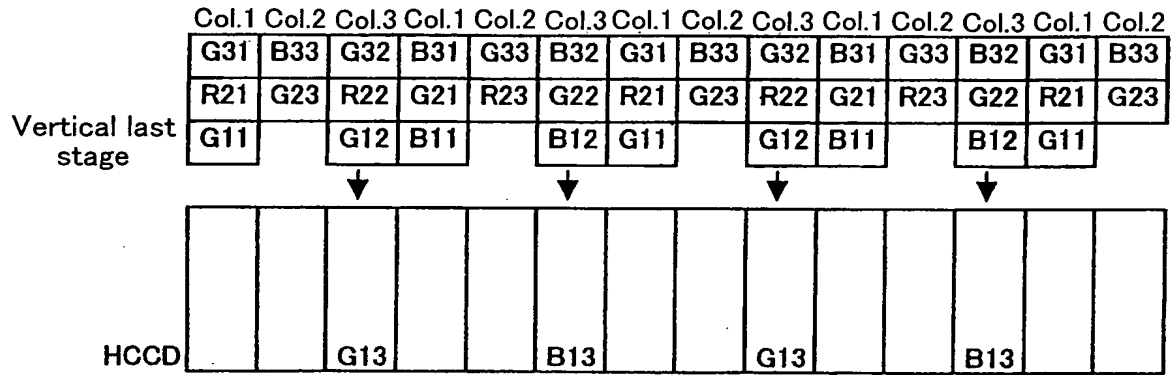


FIG. 5

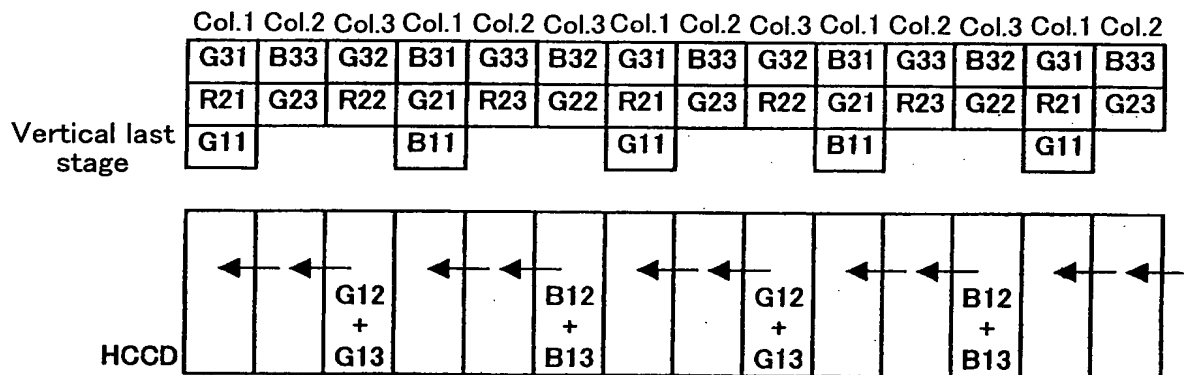


FIG. 6

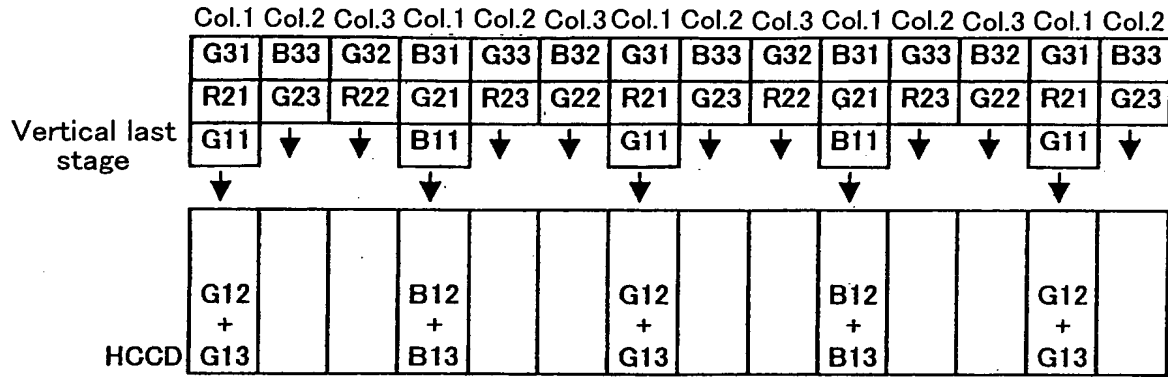


FIG. 7

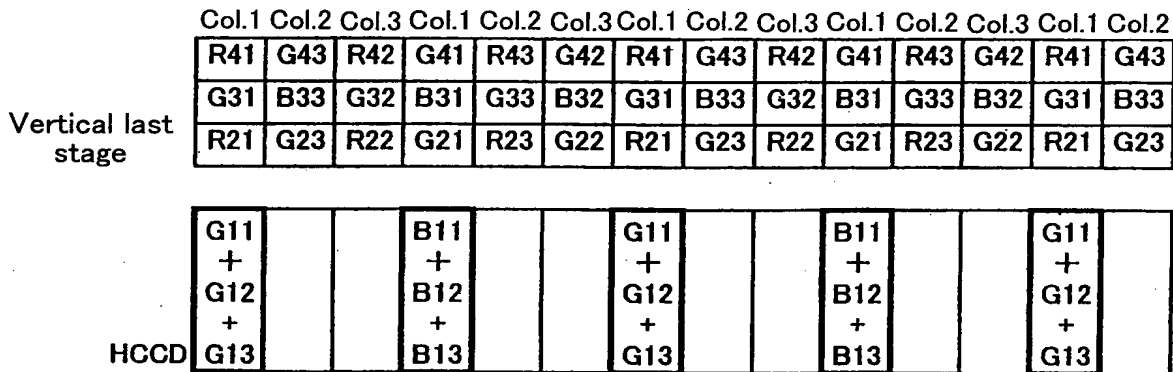


FIG. 8

| Col.1 Col.2 Col.3 Col.1 Col.2 Col.3 Col.1 Col.2 Col.3 Col.1 Col.2 Col.3 Col.1 Col.2 | | | | | | | | | | | | | |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| G51 | B53 | G52 | B51 | G53 | B52 | G51 | B53 | G52 | B51 | G53 | B52 | G51 | B53 |
| R41 | G43 | R42 | G41 | R43 | G42 | R41 | G43 | R42 | G41 | R43 | G42 | R41 | G43 |
| G31 | B33 | G32 | B31 | G33 | B32 | G31 | B33 | G32 | B31 | G33 | B32 | G31 | B33 |

Vertical last stage

| | | | | | | | | | | | | | |
|-----|--|-----|-----|--|-----|-----|--|-----|-----|--|-----|-----|--|
| R21 | | G11 | G21 | | B11 | R21 | | G11 | G21 | | B11 | R21 | |
| + | | + | + | | + | + | | + | + | | + | + | |
| R22 | | G12 | G22 | | B12 | R22 | | G12 | G22 | | B12 | R22 | |
| + | | + | + | | + | + | | + | + | | + | + | |
| R23 | | G13 | G23 | | B13 | R23 | | G13 | G23 | | B13 | R23 | |

FIG. 9

| Col.1 Col.2 Col.3 Col.1 Col.2 Col.3 Col.1 Col.2 Col.3 Col.1 Col.2 Col.3 Col.1 Col.2 | | | | | | | | | | | | | |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| R61 | G63 | R62 | G61 | R63 | G62 | R61 | G63 | R62 | G61 | R63 | G62 | R61 | G63 |
| G51 | B53 | G52 | B51 | G53 | B52 | G51 | B53 | G52 | B51 | G53 | B52 | G51 | B53 |
| R41 | G43 | R42 | G41 | R43 | G42 | R41 | G43 | R42 | G41 | R43 | G42 | R41 | G43 |

Vertical last stage

| | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| G31 | B11 | R21 | B31 | G11 | G21 | G31 | B11 | R21 | B31 | G11 | G21 | G31 | B11 |
| + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| G32 | B12 | R22 | B32 | G12 | G22 | G32 | B12 | R22 | B32 | G12 | G22 | G32 | B12 |
| + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| G33 | B13 | R23 | B33 | G13 | G23 | G33 | B13 | R23 | B33 | G13 | G23 | G33 | B13 |

FIG. 10

Vertical last stage

| Col.1 | Col.2 | Col.3 | Col.1 | Col.2 | Col.3 | Col.1 | Col.2 | Col.3 | Col.1 | Col.2 | Col.3 | Col.1 | Col.2 |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| R61 | G63 | R62 | G61 | R63 | G62 | R61 | G63 | R62 | G61 | R63 | G62 | R61 | G63 |
| G51 | B53 | G52 | B51 | G53 | B52 | G51 | B53 | G52 | B51 | G53 | B52 | G51 | B53 |
| R41 | G43 | R42 | G41 | R43 | G42 | R41 | G43 | R42 | G41 | R43 | G42 | R41 | G43 |

| | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| G31 | B11 | R21 | B31 | G11 | G21 | G31 | B11 | R21 | B31 | G11 | G21 | G31 | B11 |
| + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| G32 | B12 | R22 | B32 | G12 | G22 | G32 | B12 | R22 | B32 | G12 | G22 | G32 | B12 |
| + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| G33 | B13 | R23 | B33 | G13 | G23 | G33 | B13 | R23 | B33 | G13 | G23 | G33 | B13 |
| a6 | a1 | a2 | a3 | a4 | a5 | a6 | a1 | a2 | a3 | a4 | a5 | a6 | a1 |

FIG. 11

Vertical last stage

| Col.1 | Col.2 | Col.3 | Col.1 | Col.2 | Col.3 | Col.1 | Col.2 | Col.3 | Col.1 | Col.2 | Col.3 | Col.1 | Col.2 |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| G31 | B33 | G32 | B31 | G33 | B32 | G31 | B33 | G32 | B31 | G33 | B32 | G31 | B33 |
| R21 | G23 | R22 | G21 | R23 | G22 | R21 | G23 | R22 | G21 | R23 | G22 | R21 | G23 |
| G11 | B13 | G12 | B11 | G13 | B12 | G11 | B13 | G12 | B11 | G13 | B12 | G11 | B13 |

| | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| R61 | G41 | G51 | G61 | R41 | B51 | R61 | G41 | G51 | G61 | R41 | B51 | R61 | G41 |
| + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| R62 | G42 | G52 | G62 | R42 | B52 | R62 | G42 | G52 | G62 | R42 | B52 | R62 | G42 |
| + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| R63 | G43 | G53 | G63 | R43 | B53 | R63 | G43 | G53 | G63 | R43 | B53 | R63 | G43 |

FIG. 12

Vertical last stage

| Col.1 | Col.2 | Col.3 | Col.1 | Col.2 | Col.3 | Col.1 | Col.2 | Col.3 | Col.1 | Col.2 | Col.3 | Col.1 | Col.2 |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| G31 | B33 | G32 | B31 | G33 | B32 | G31 | B33 | G32 | B31 | G33 | B32 | G31 | B33 |
| R21 | G23 | R22 | G21 | R23 | G22 | R21 | G23 | R22 | G21 | R23 | G22 | R21 | G23 |
| G11 | B13 | G12 | B11 | G13 | B12 | G11 | B13 | G12 | B11 | G13 | B12 | G11 | B13 |

| | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| R61 | G41 | G51 | G61 | R41 | B51 | R61 | G41 | G51 | G61 | R41 | B51 | R61 | G41 |
| + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| R62 | G42 | G52 | G62 | R42 | B52 | R62 | G42 | G52 | G62 | R42 | B52 | R62 | G42 |
| + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| R63 | G43 | G53 | G63 | R43 | B53 | R63 | G43 | G53 | G63 | R43 | B53 | R63 | G43 |

b6 b1 b2 b3 b4 b5 b6 b1 b2 b3 b4 b5 b6 b1

FIG. 13

Two dimensional re-arrangement of output signal

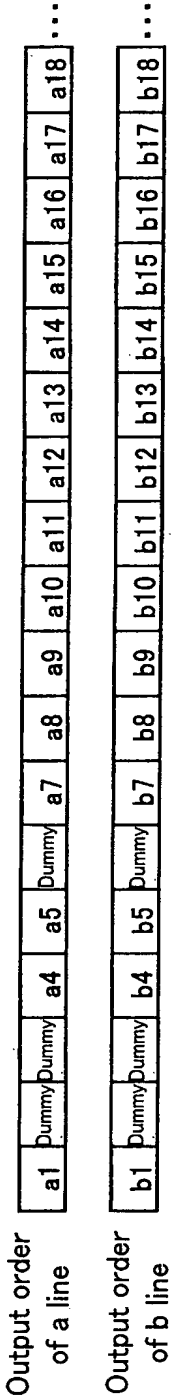


FIG. 14A

Two dimensional re-arrangement of mixed pixels at the center of the pixels

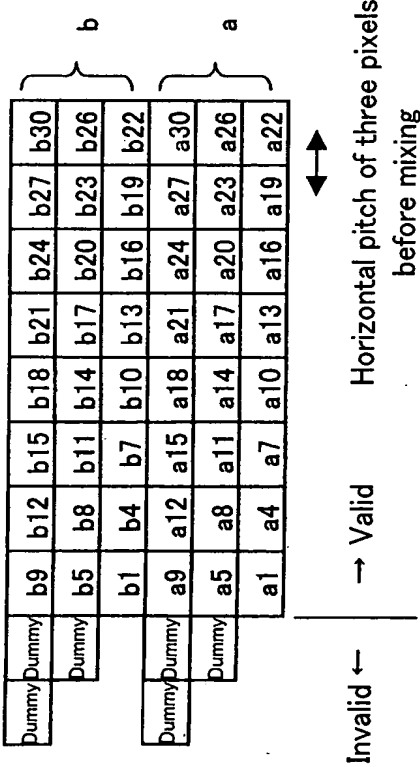


FIG. 14B

Color arrangement of mixed pixels

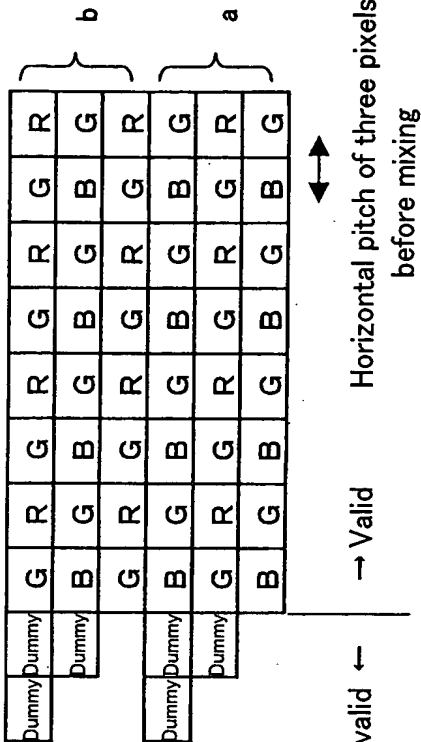


FIG. 14C

FIG. 15

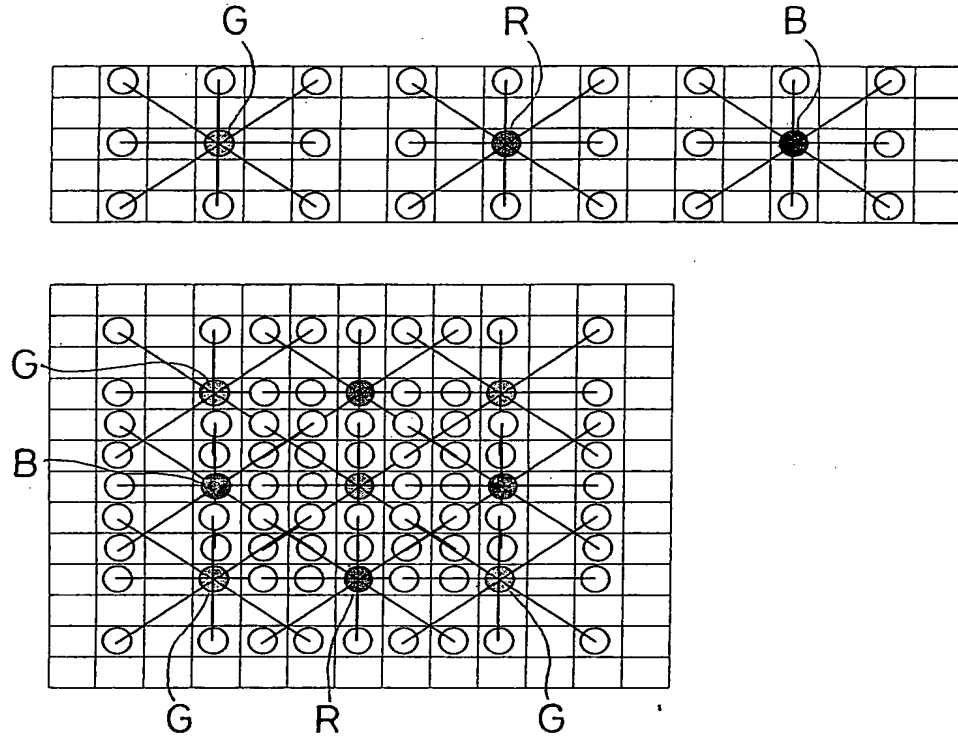
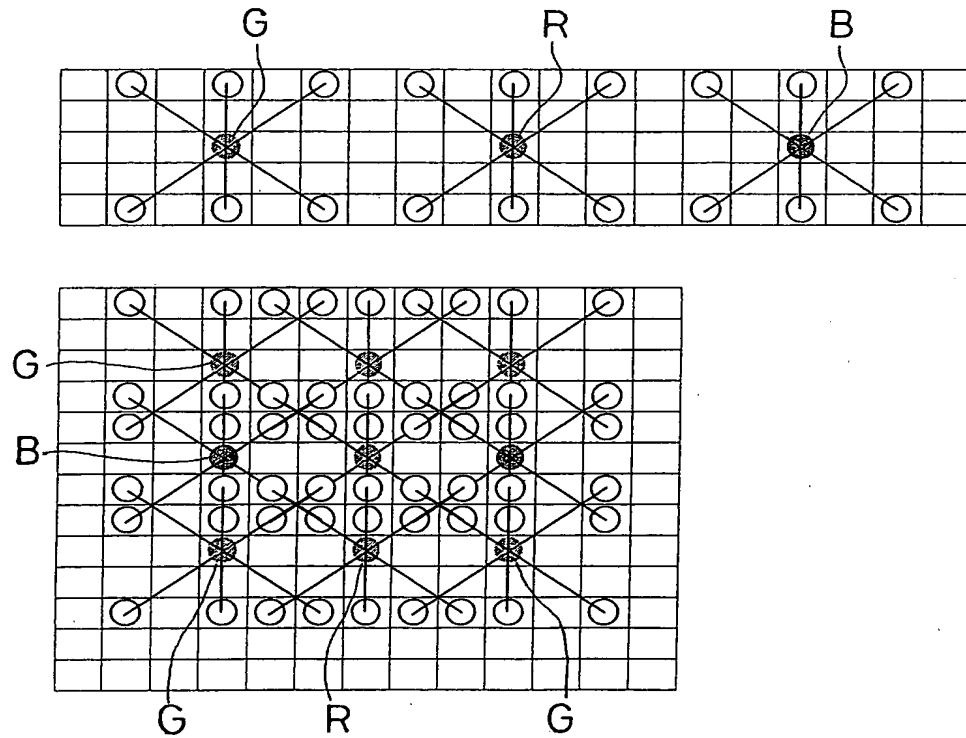


FIG. 16



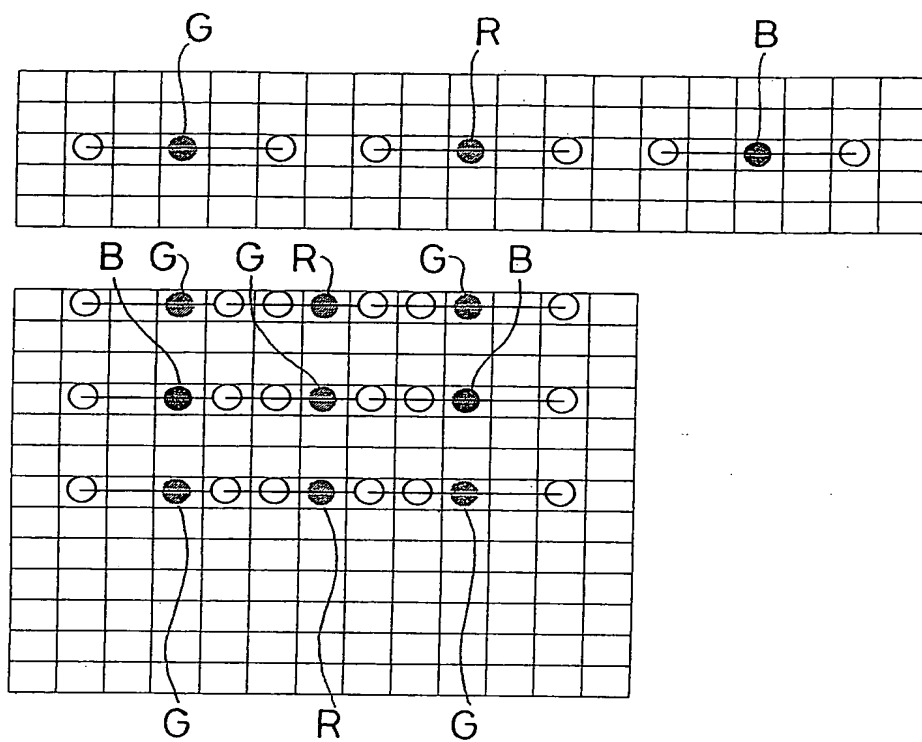


FIG. 17

FIG. 18

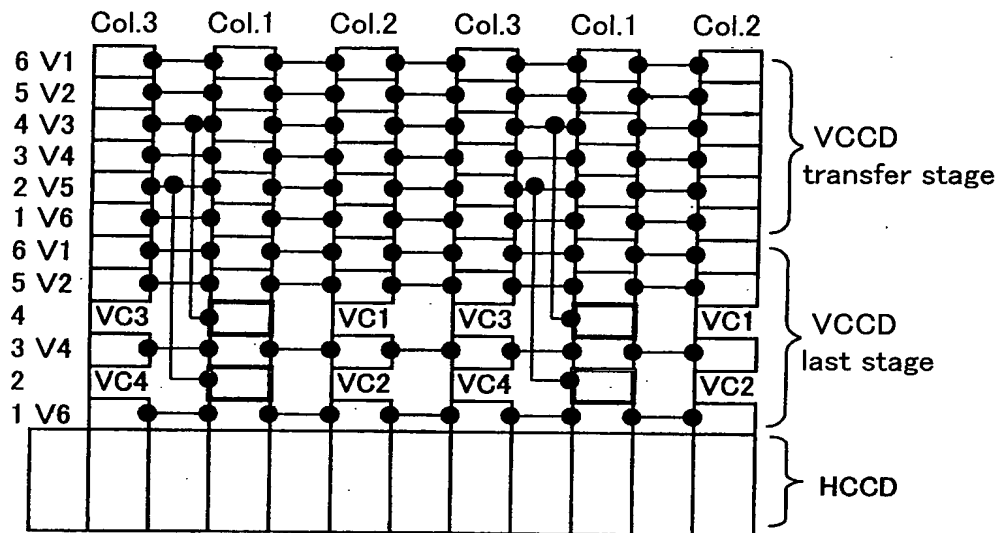


FIG. 19

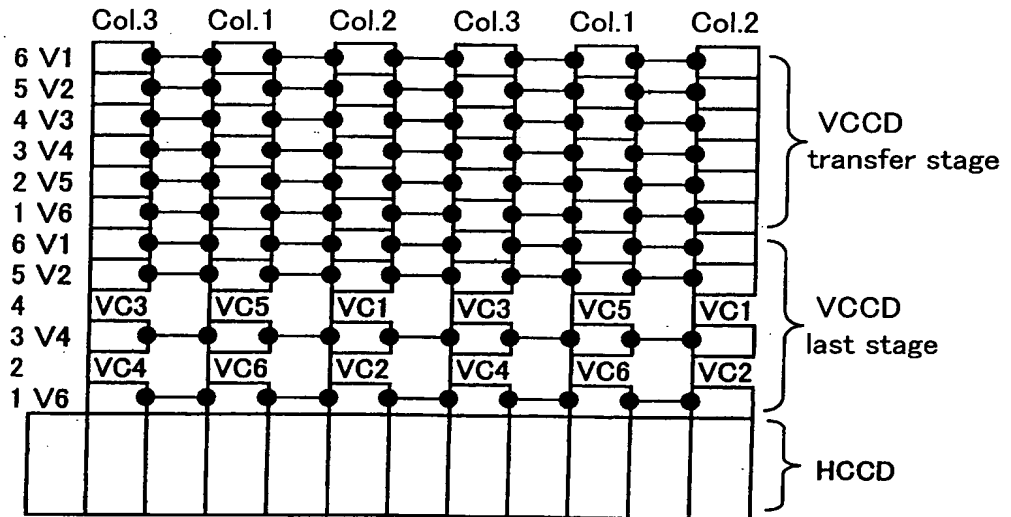


FIG. 20

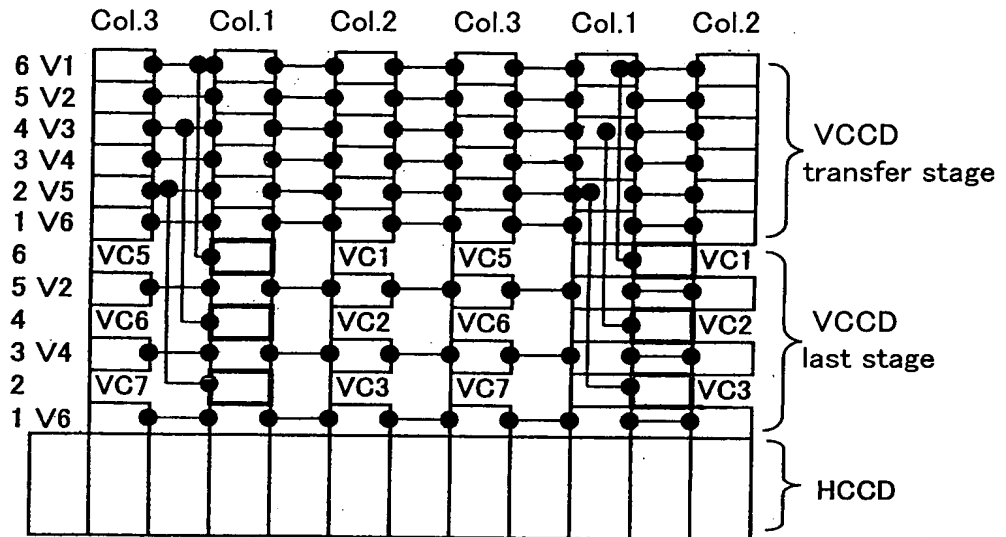
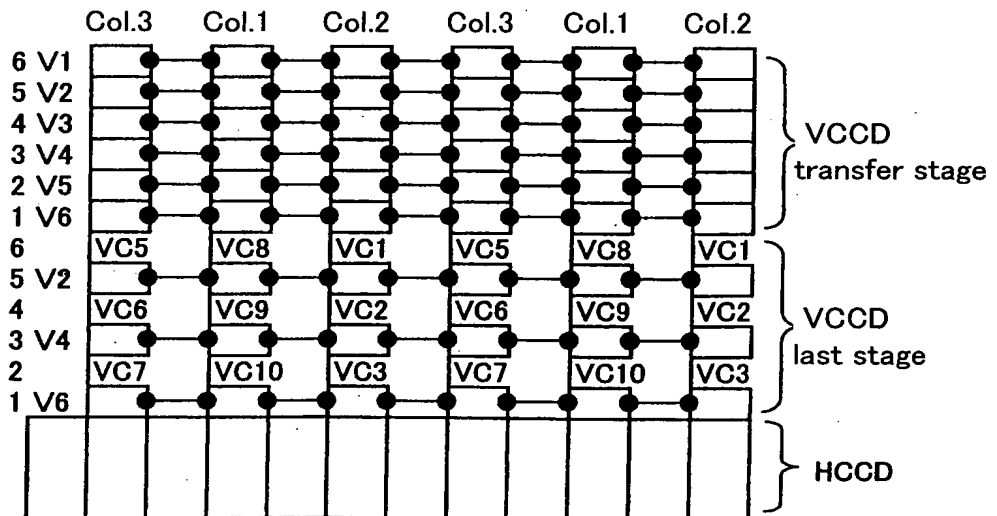


FIG. 21



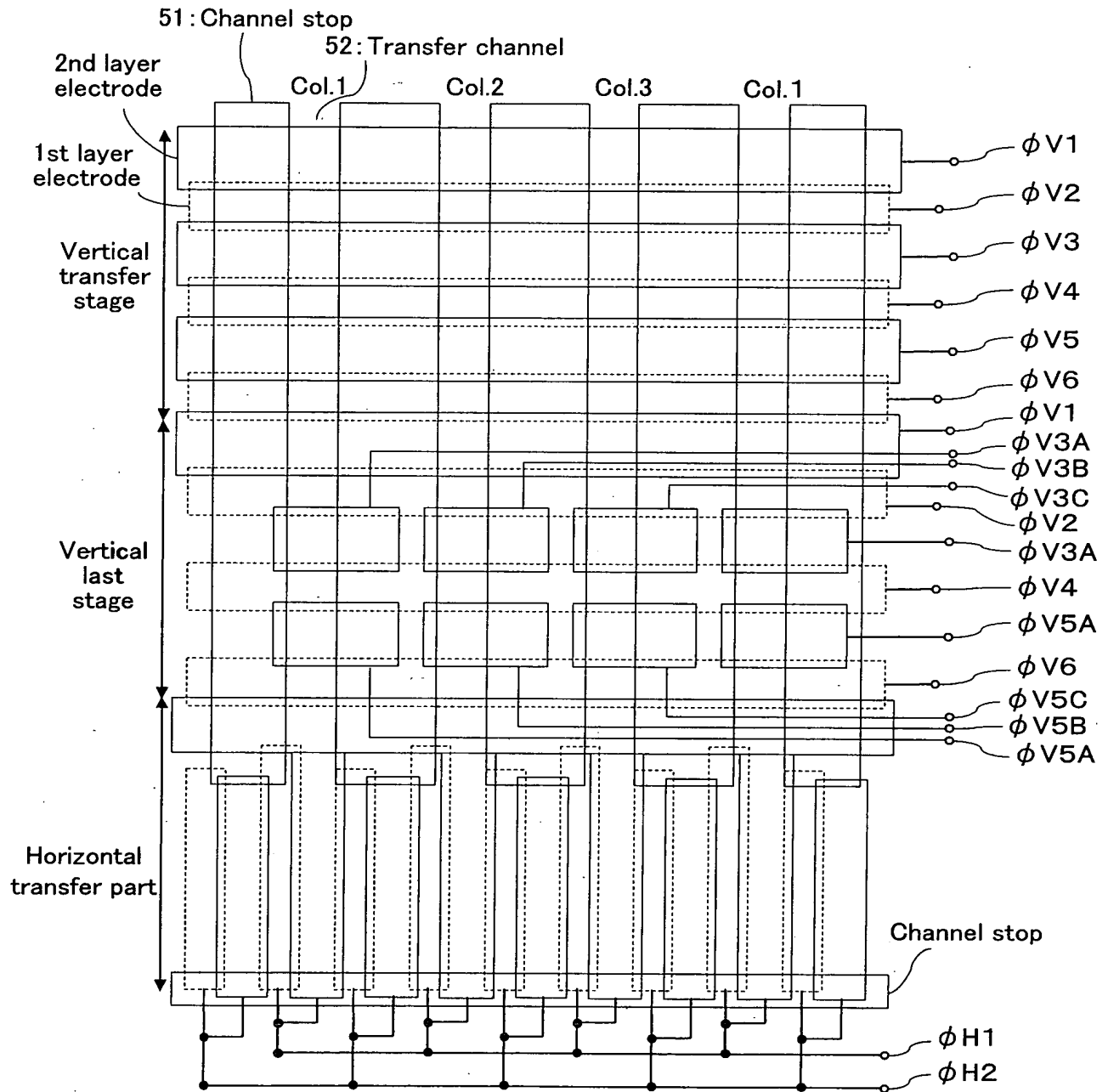


FIG.22

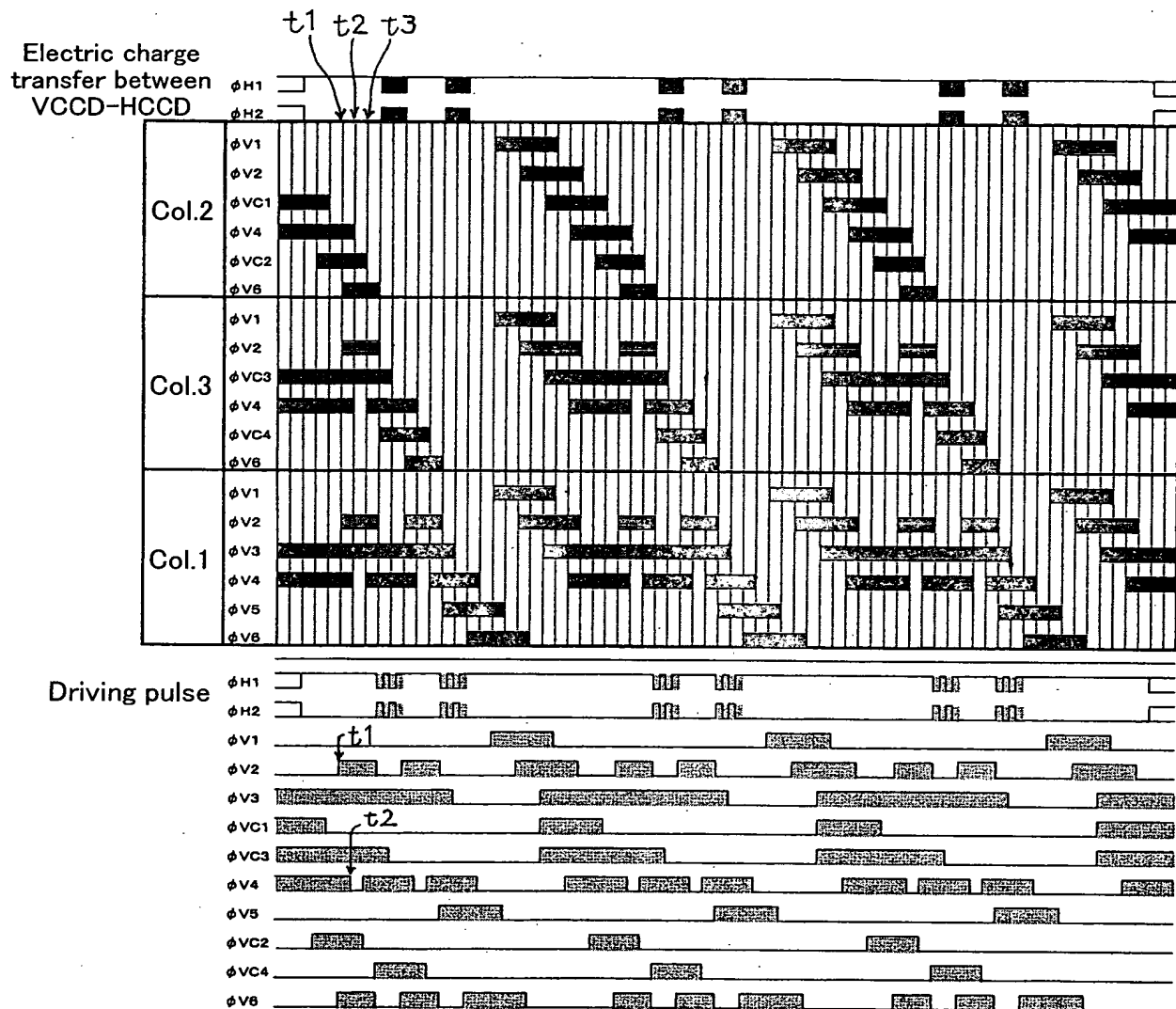


FIG. 23

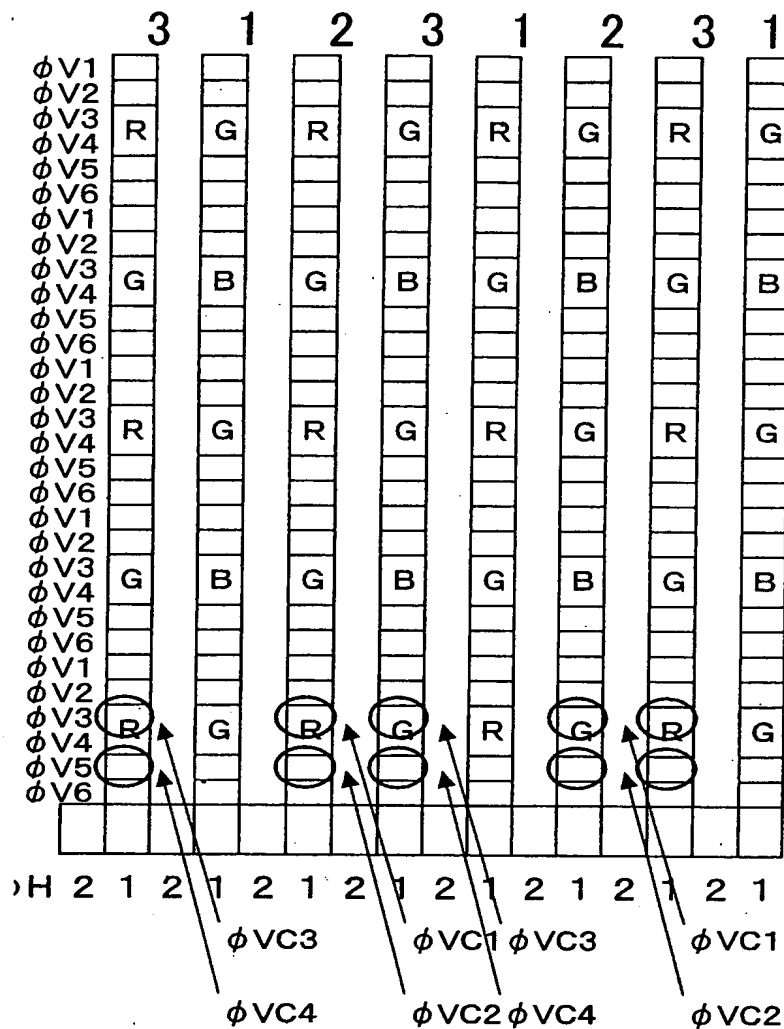


FIG. 24

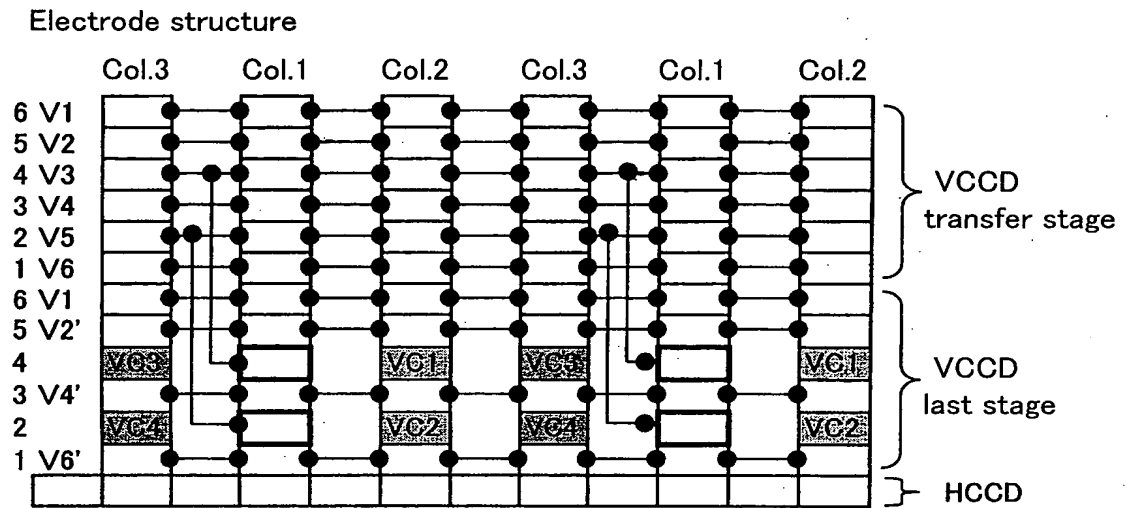


FIG. 25

Electric charge
transfer between
VCCD-HCCD

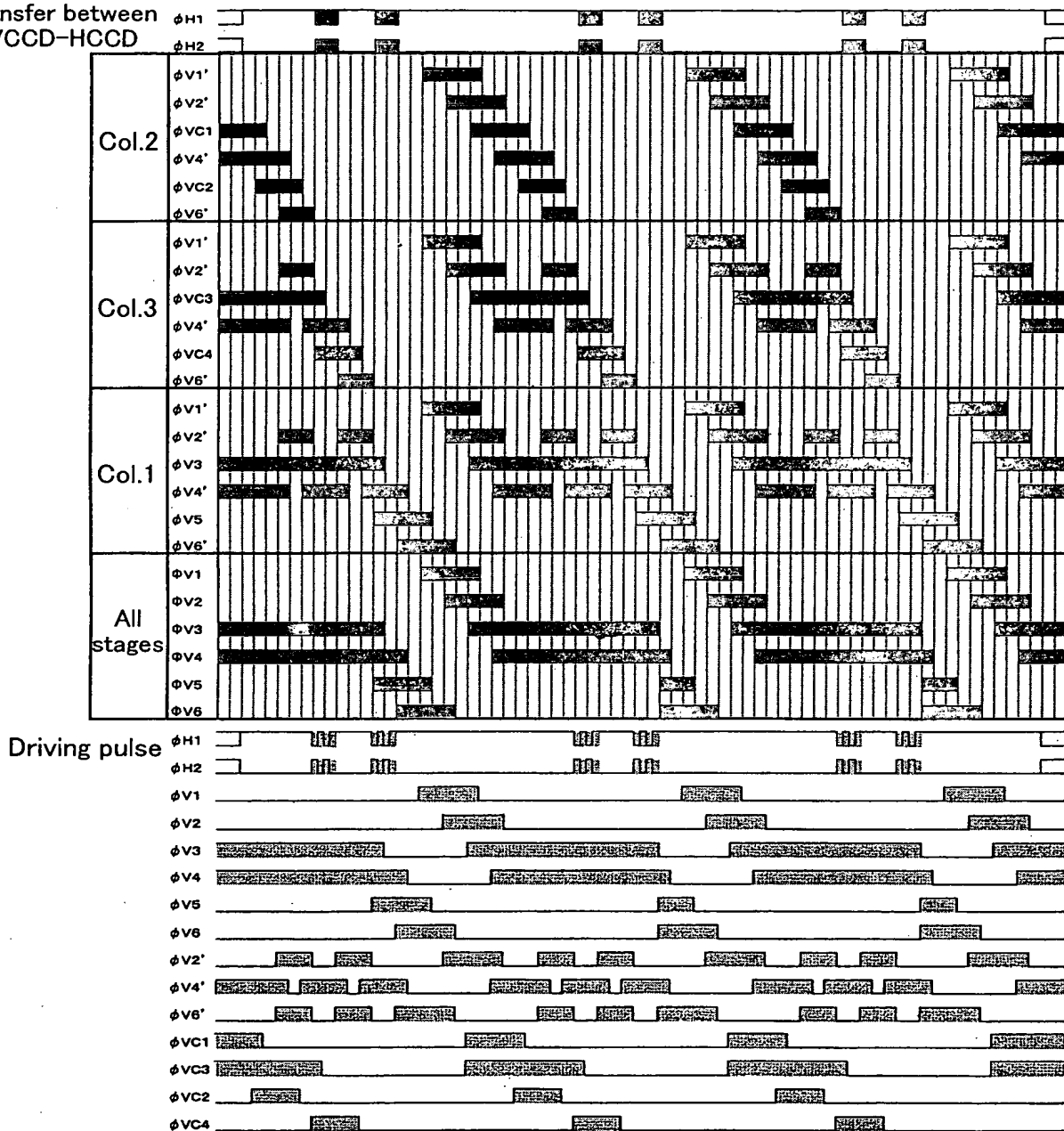


FIG. 26

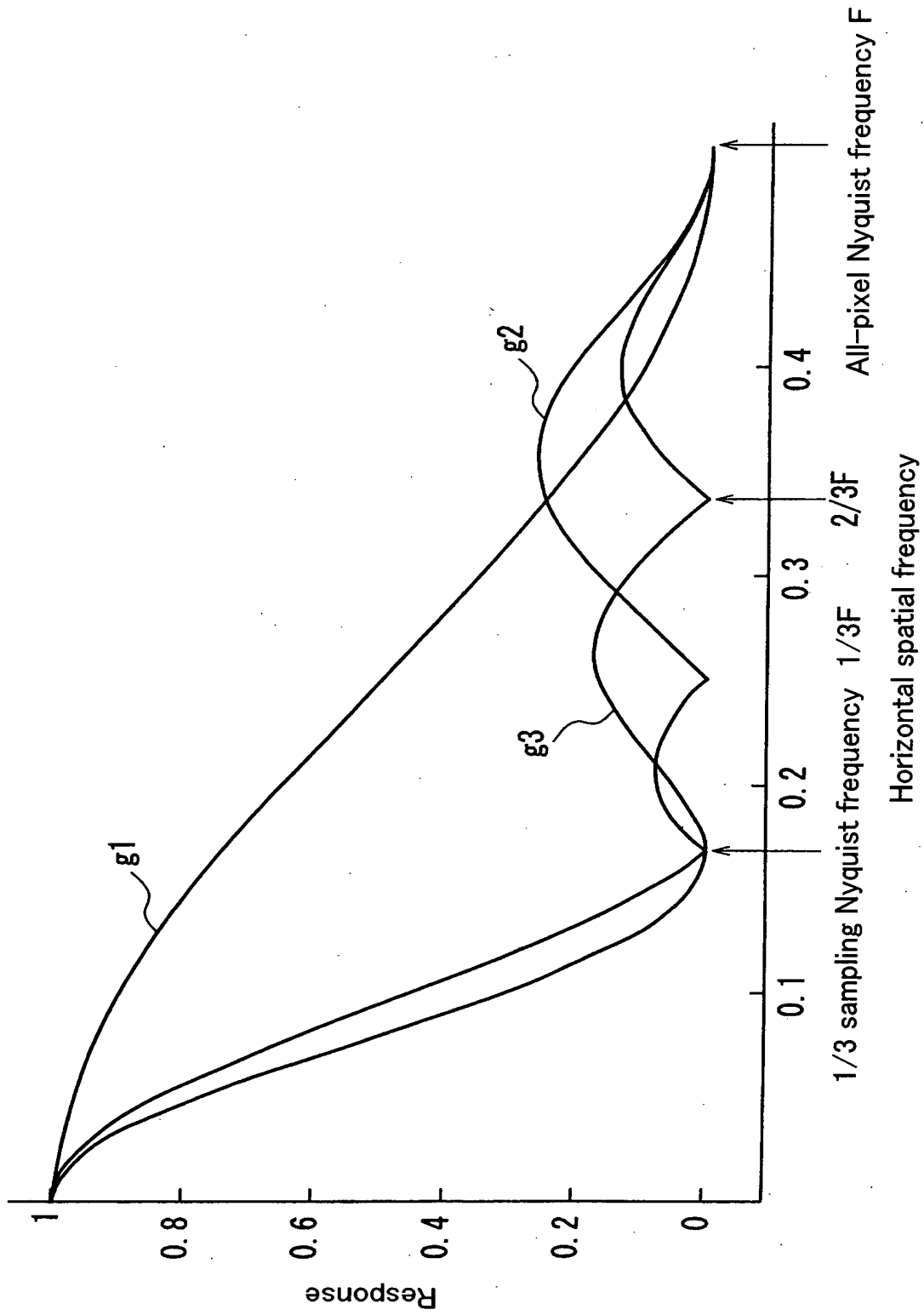


FIG. 27

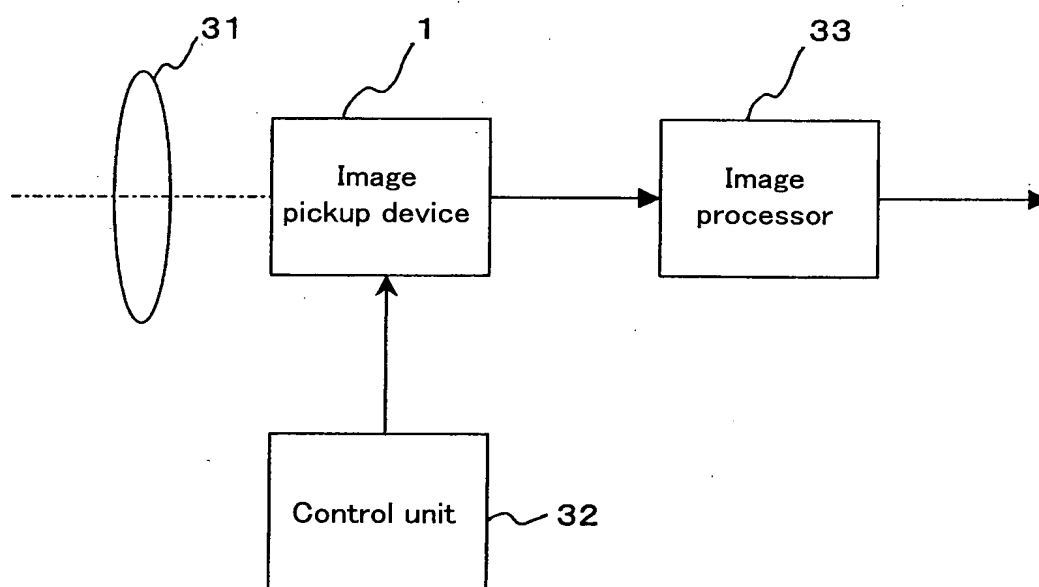


FIG. 28

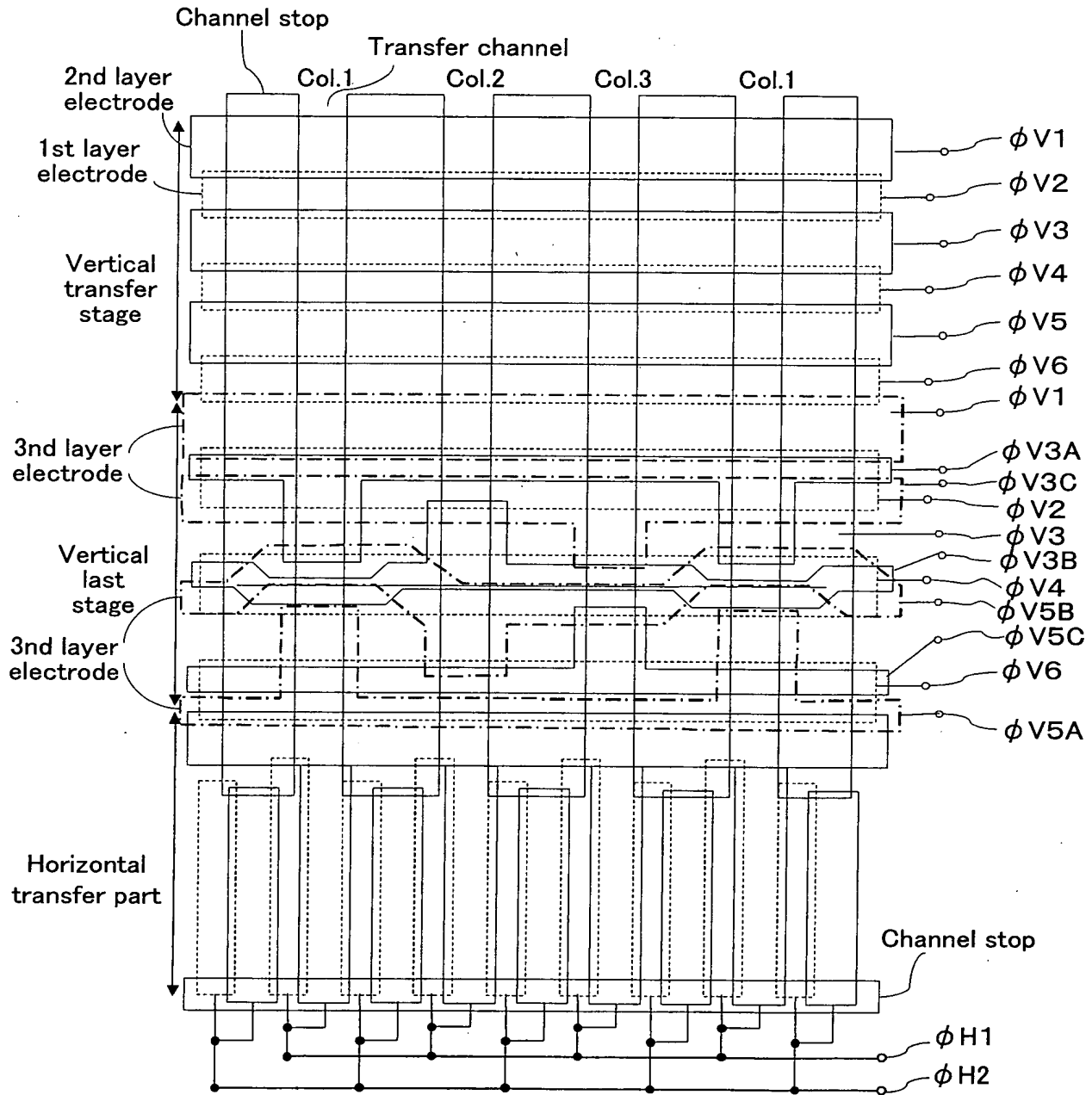


FIG.29

FIG.30

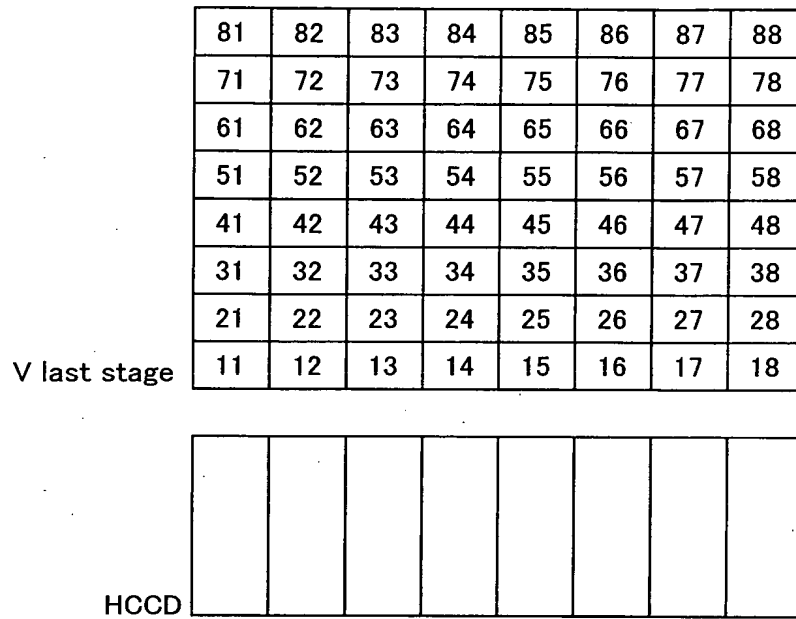


FIG.31

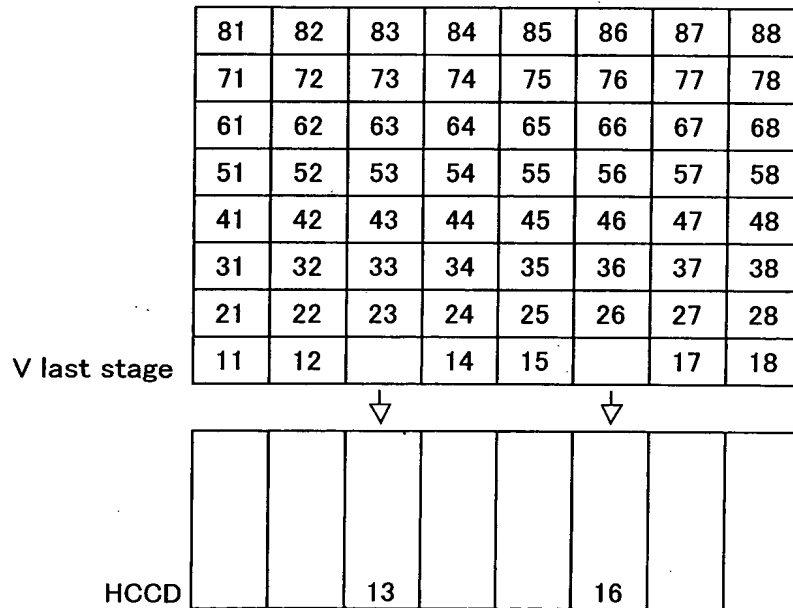


FIG.34

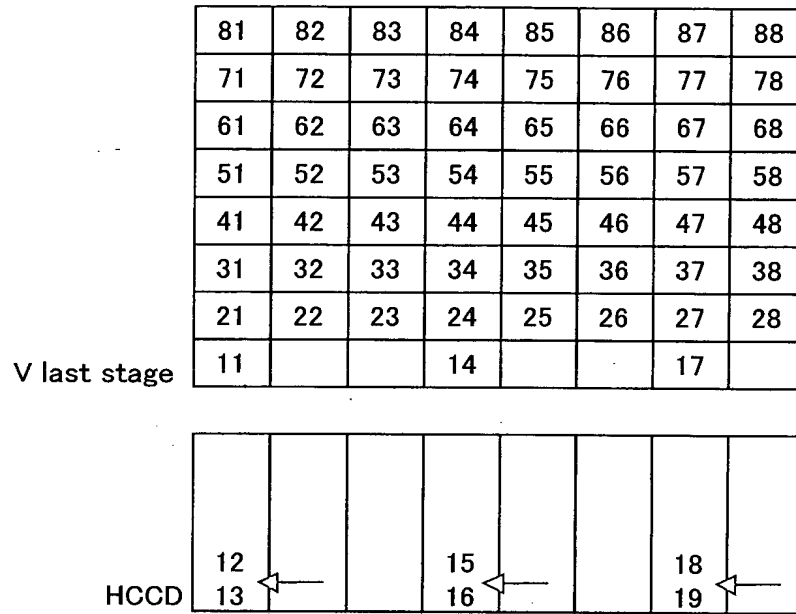


FIG.35

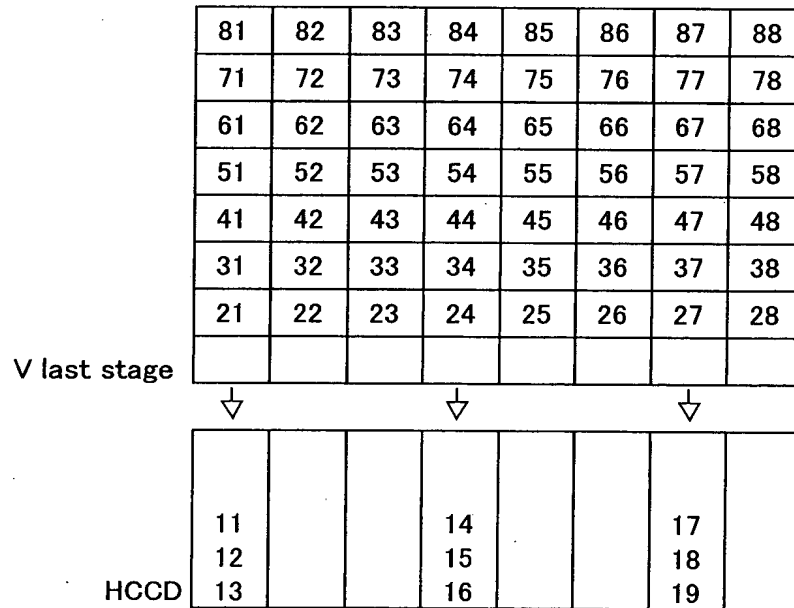


FIG.36

| | | | | | | | |
|----|----|----|----|----|----|----|----|
| | | | | | | | |
| 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 |
| 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 |
| 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 |
| 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 |
| 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 |
| 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 |

V last stage

| | | | | | | | |
|----|--|--|----|--|--|----|--|
| | | | | | | | |
| 11 | | | 14 | | | 17 | |
| 12 | | | 15 | | | 18 | |
| 13 | | | 16 | | | 19 | |

HCCD

FIG.37

| | | | | | | | |
|----|----|----|----|----|----|----|----|
| | | | | | | | |
| 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 |
| 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 |
| 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 |
| 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 |
| 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 |
| 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 |
| 21 | 22 | | 24 | 25 | | 27 | 28 |

V last stage

| | | | | | | | |
|----|--|----|----|--|----|----|--|
| | | | | | | | |
| 11 | | | 14 | | | 17 | |
| 12 | | | 15 | | | 18 | |
| 13 | | 23 | 16 | | 26 | 19 | |

HCCD

FIG.38

| | | | | | | | |
|--------------|----|----|----|----|----|----|----|
| | | | | | | | |
| 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 |
| 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 |
| 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 |
| 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 |
| 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 |
| 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 |
| V last stage | 22 | | 24 | 25 | | 27 | 28 |

| | | | | | | | |
|------|----|----|---|----|----|---|----|
| | | | | | | | |
| | | 14 | | | 17 | | |
| | | 15 | | | 18 | | |
| HCCD | 23 | 16 | ← | 26 | 19 | ← | 29 |

FIG.39

| | | | | | | | |
|--------------|----|----|----|----|----|----|----|
| | | | | | | | |
| 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 |
| 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 |
| 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 |
| 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 |
| 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 |
| 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 |
| V last stage | 21 | | 24 | | | 27 | |
| | ↓ | | | ↓ | | | ↓ |
| | | 14 | | | 17 | | |
| | 22 | 15 | | 25 | 18 | | 28 |
| HCCD | 23 | 16 | | 26 | 19 | | 29 |

FIG.40

V last stage

| | | | | | | | |
|----|----|----|----|----|----|----|----|
| | | | | | | | |
| 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 |
| 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 |
| 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 |
| 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 |
| 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 |
| 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 |
| 21 | | | 24 | | | 27 | |

HCCD

| | | | | | | | |
|----|----|---|----|----|---|----|--|
| | | | | | | | |
| | 14 | | | 17 | | | |
| 22 | 15 | ← | 25 | 18 | ← | 28 | |
| 23 | 16 | | 26 | 19 | | 29 | |

FIG.41

V last stage

| | | | | | | | |
|----|----|----|----|----|----|----|----|
| | | | | | | | |
| 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 |
| 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 |
| 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 |
| 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 |
| 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 |
| 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 |
| | | | | | | | |



HCCD

| | | | | | | | |
|----|----|--|----|----|--|----|--|
| | | | | | | | |
| 21 | 14 | | 24 | 17 | | 27 | |
| 22 | 15 | | 25 | 18 | | 28 | |
| 23 | 16 | | 26 | 19 | | 29 | |

FIG.42

V last stage

| | | | | | | | |
|----|----|----|----|----|----|----|----|
| | | | | | | | |
| | | | | | | | |
| 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 |
| 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 |
| 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 |
| 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 |
| 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 |
| 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 |

HCCD

| | | | | | | | |
|----|----|--|----|----|--|----|-----|
| | | | | | | | |
| 21 | 14 | | 24 | 17 | | 27 | 110 |
| 22 | 15 | | 25 | 18 | | 28 | 111 |
| 23 | 16 | | 26 | 19 | | 29 | 112 |

FIG.43

V last stage

| | | | | | | | |
|----|----|----|----|----|----|----|----|
| | | | | | | | |
| | | | | | | | |
| 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 |
| 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 |
| 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 |
| 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 |
| 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 |
| 31 | 32 | | 34 | 35 | | 37 | 38 |



HCCD

| | | | | | | | |
|----|----|----|----|----|----|----|-----|
| | | | | | | | |
| 21 | 14 | | 24 | 17 | | 27 | 110 |
| 22 | 15 | | 25 | 18 | | 28 | 111 |
| 23 | 16 | 33 | 26 | 19 | 36 | 29 | 112 |

FIG.44

V last stage

| | | | | | | | |
|----|----|----|----|----|----|----|----|
| | | | | | | | |
| | | | | | | | |
| 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 |
| 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 |
| 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 |
| 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 |
| 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 |
| 31 | 32 | | 34 | 35 | | 37 | 38 |

HCCD

| | | | | | | | |
|----|----|----|----|----|----|-----|----|
| | | | | | | | |
| 14 | | 24 | 17 | | 27 | 110 | |
| 15 | ← | 25 | 18 | ← | 28 | 111 | |
| 16 | 33 | 26 | 19 | 36 | 29 | 112 | 39 |

FIG.45

V last stage

| | | | | | | | |
|----|----|----|----|----|----|----|----|
| | | | | | | | |
| | | | | | | | |
| 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 |
| 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 |
| 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 |
| 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 |
| 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 |
| 31 | | | 34 | | | 37 | |



HCCD

| | | | | | | | |
|----|----|----|----|----|----|-----|----|
| | | | | | | | |
| 14 | | 24 | 17 | | 27 | 110 | |
| 15 | 32 | 25 | 18 | 35 | 28 | 111 | 38 |
| 16 | 33 | 26 | 19 | 36 | 29 | 112 | 39 |

FIG.46

V last stage

| | | | | | | | |
|----|----|----|----|----|----|----|----|
| | | | | | | | |
| | | | | | | | |
| 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 |
| 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 |
| 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 |
| 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 |
| 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 |
| 31 | | | 34 | | | 37 | |

HCCD

| | | | | | | | |
|----|----|----|----|----|-----|----|-----|
| | | | | | | | |
| | 24 | 17 | | 27 | 110 | | 210 |
| 32 | 25 | 18 | 35 | 28 | 111 | 38 | 211 |
| 33 | 26 | 19 | 36 | 29 | 112 | 39 | 212 |

FIG.47

V last stage

| | | | | | | | |
|----|----|----|----|----|----|----|----|
| | | | | | | | |
| | | | | | | | |
| 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 |
| 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 |
| 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 |
| 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 |
| 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 |
| | | | | | | | |



HCCD

| | | | | | | | |
|----|----|----|----|----|-----|----|-----|
| | | | | | | | |
| 31 | 24 | 17 | 34 | 27 | 110 | 37 | 210 |
| 32 | 25 | 18 | 35 | 28 | 111 | 38 | 211 |
| 33 | 26 | 19 | 36 | 29 | 112 | 39 | 212 |

FIG.48

| | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|
| G81 | R82 | G83 | R84 | G85 | R86 | G87 | R88 |
| B71 | G72 | B73 | G74 | B75 | G76 | B77 | G78 |
| G61 | R62 | G63 | R64 | G65 | R66 | G67 | R68 |
| B51 | G52 | B53 | G54 | B55 | G56 | B57 | G58 |
| G41 | R42 | G43 | R44 | G45 | R46 | G47 | R48 |
| B31 | G32 | B33 | G34 | B35 | G36 | B37 | G38 |
| G21 | R22 | G23 | R24 | G25 | R26 | G27 | R28 |
| B11 | G12 | B13 | G14 | B15 | G16 | B17 | G18 |

FIG.49

| | | | | | | | | |
|--------------|----|----|----|----|----|----|----|----|
| | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 |
| | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 |
| | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 |
| | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 |
| | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 |
| | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 |
| | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| V last stage | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |

| | | | | | | | | |
|------|--|--|--|--|--|--|--|--|
| HCCD | | | | | | | | |
|------|--|--|--|--|--|--|--|--|

FIG.50

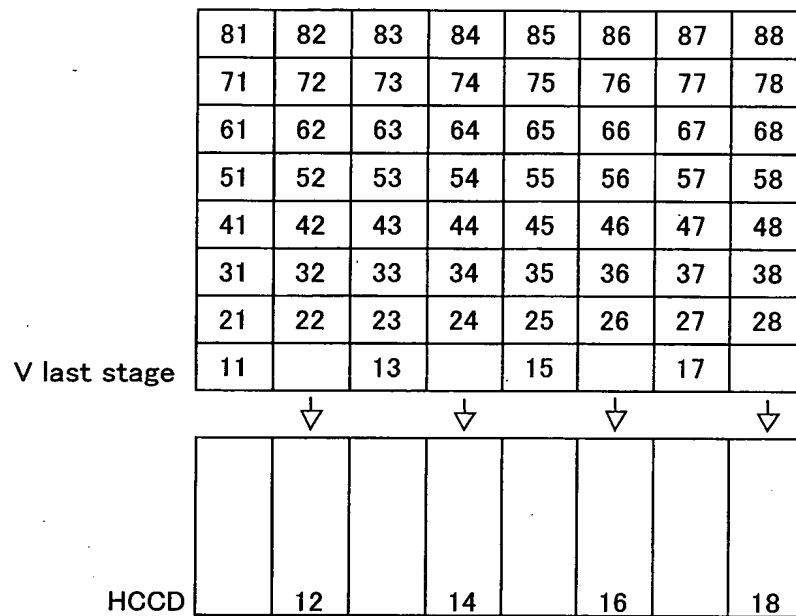


FIG.51

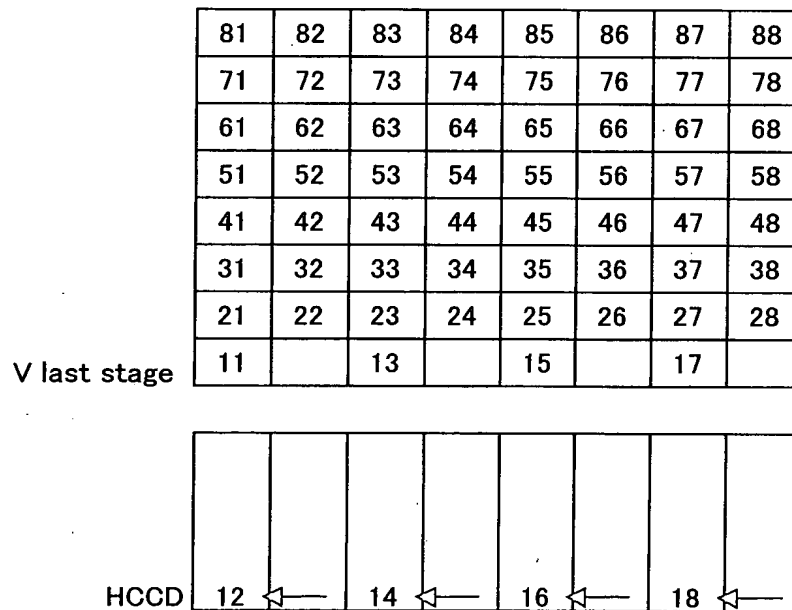


FIG.52

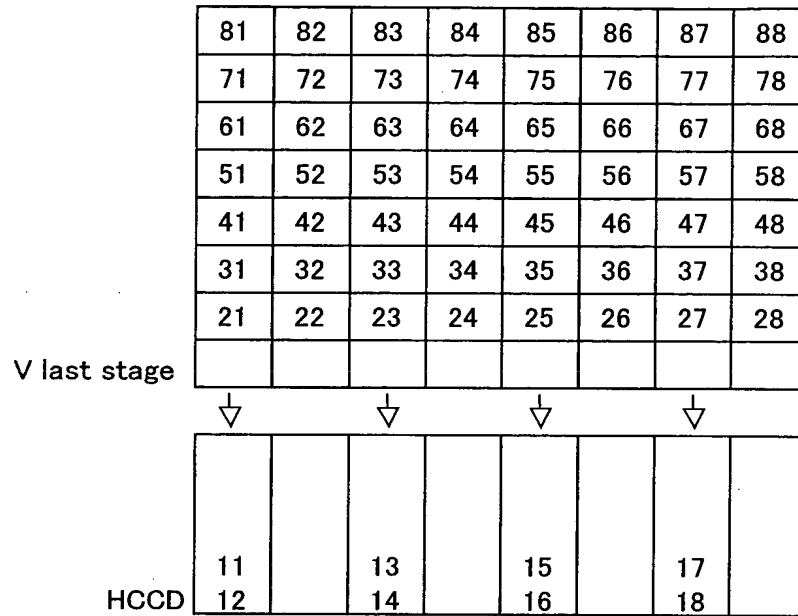


FIG.53

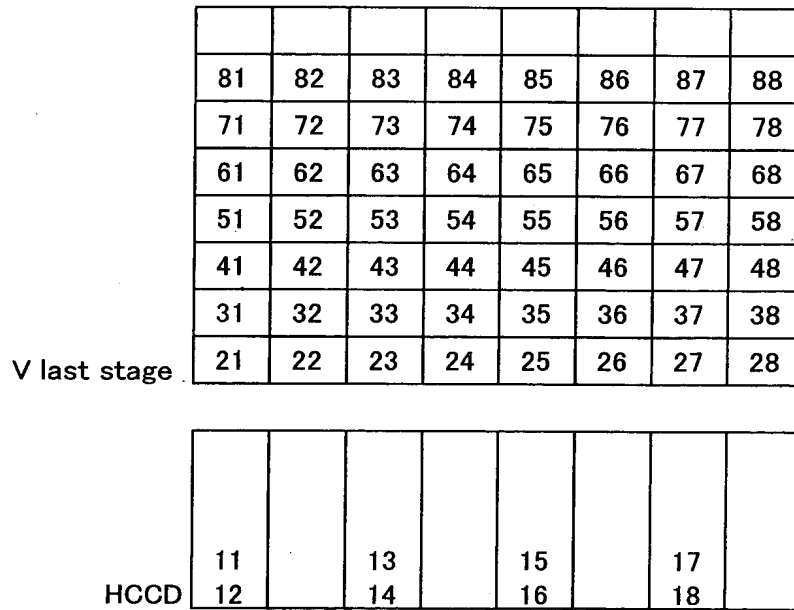


FIG.54

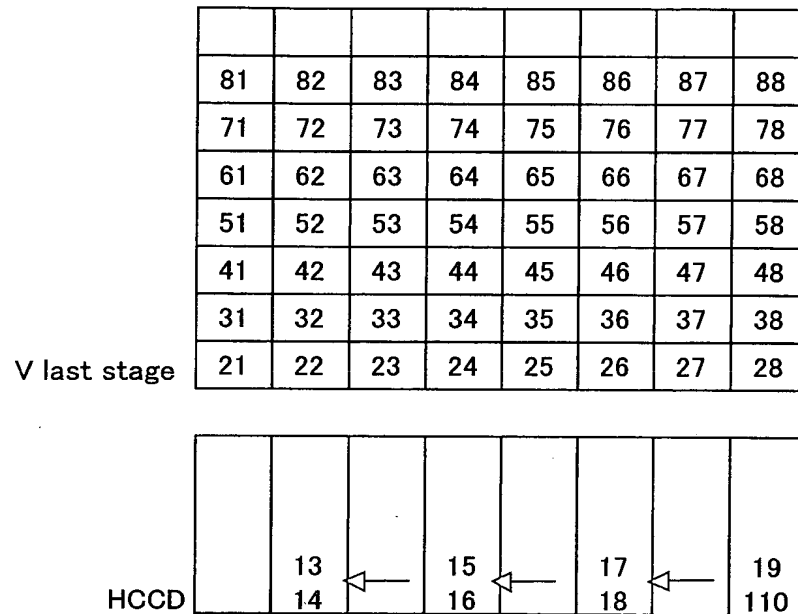


FIG.55

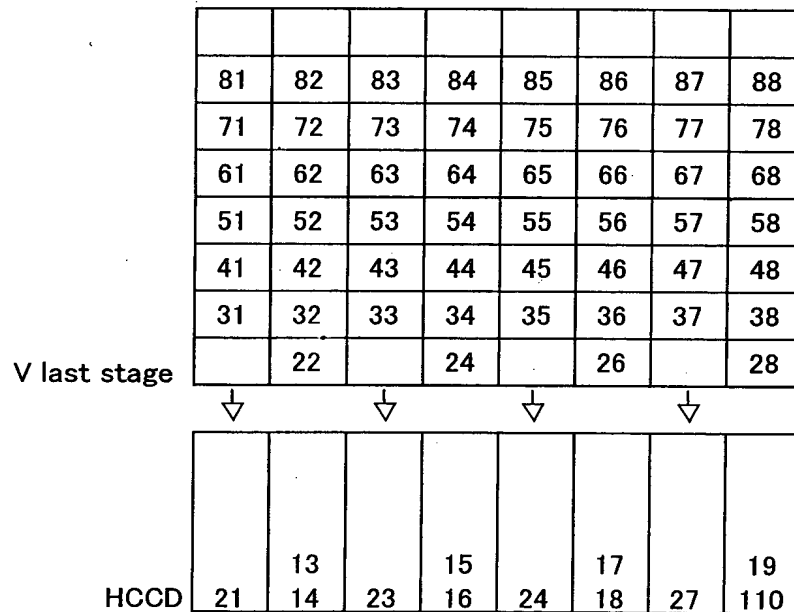


FIG.56

V last stage

| | | | | | | | |
|----|----|----|----|----|----|----|----|
| | | | | | | | |
| 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 |
| 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 |
| 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 |
| 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 |
| 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 |
| 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 |
| | 22 | | 24 | | 26 | | 28 |

HCCD

| | | | | | | | |
|----|----|----|----|----|----|----|----|
| | | | | | | | |
| 13 | 14 | 23 | 15 | 16 | 24 | 17 | 18 |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

FIG.57

V last stage

| | | | | | | | |
|----|----|----|----|----|----|----|----|
| | | | | | | | |
| 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 |
| 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 |
| 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 |
| 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 |
| 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 |
| 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 |
| | | | | | | | |

HCCD

| | | | | | | | |
|----|----|----|----|----|----|-----|----|
| | | | | | | | |
| 13 | 22 | 15 | 24 | 17 | 26 | 19 | 28 |
| 14 | 23 | 16 | 25 | 18 | 27 | 110 | 29 |

FIG.58

| | | | | | | | |
|----|----|----|----|----|----|----|----|
| 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 |
| 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 |
| 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 |
| 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 |
| 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 |
| 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |